

NOTES ON TURKISH DERMAPTERA.

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Plate I.

Earwigs are by no means common in Turkey and even the offer of cash rewards to gardeners has produced but little result. There is, however, considerable scope for research, as several interesting species occur and others may be anticipated. So little has been recorded about Turkish Dermaptera that the following modest contribution to our knowledge is worth recording.

Students of Turkish tell me that the Turkish name for earwig is *kulagha giren*, or *kulagha chilan*, i.e., the runner-into-the-ear. But this sounds suspiciously like a learned name imposed from above. The Turks are very casual about the application of names to animals and plants, and earwigs are unusual insects here. Still, our maid, a Turkish semi-educated village girl, recognized one that we caught in the house, and knew it as "kulagha chilan."

Earwigs are not familiar insects in the south of Europe, and I have not traced a genuine native word for them in the languages of the Mediterranean.

LABIDURINAE.

Labidura riparia, Pall.—Professor Kosswig showed me a very small apterous female from Armutlu, on the north coast of the Gulf of Ismid, and a specimen from Kars.

In four years spent on the banks of the Bosphorus, I have not come across a specimen, probably because the shores are not sandy. In The Robert College Museum there is a specimen.

LABIINAE.

Labia minor, L.—I have not come across this species on the wing, but with Professor Kosswig found a few under the bark of a rotting palm tree, prone on the ground, which was swarming with Isopoda, Collembola, and Thysanura.

In the University Museum there is a small male of the *inermis* form from Suadiya, on the shores of the Gulf of Ismid.

FSA LINAE.

Anisolabis annulipes, Luc.—Professor Kosswig brought back a small series of well developed specimens from Armutlu.

FORFICULINAE.

Anechura bipunctata, Fabr.—E. Taurus: Kaldi Dag, about 8000 ft.; a typical, dark form; brought me by our Consul-General, Mr Hurst. Erciyas, 2500-3500 ft.; three females and several nymphs; one female was teneral; 1st August 1941 (Kosswig). Kars, one male, September 1941 (Kosswig).

Forficula decipiens, Géné.—A single male on an Iris on my dining table near Bebek, on the banks of the Bosphorus, 21st April 1943. Another from a garden in the middle of the village of Rumelihisari, on 2nd June 1943.

F. lurida, Fisch.—Fairly common in the upper part of the village of Rumelihisari, chiefly in gardens. I have the following dates: 22.ix.40, 12.v.41, 7.vi.41, 22.vi.41, from various friends. Armutlu, several (Kosswig). Yaylacik and Pendik (Univ. Mus.).

F. auricularia, L.—Rumelihisari, very dark macrolabious males on 10th and 11th November 1940 and 29th December 1941. 1st December 1940, the Beyoglu, British Embassy garden: 7 males, 21 females; 24th May 1941; 31st October 1942. Robert College Infirmary Garden: 27th June 1941, two macrolabious males and four females. Bebek: 5th July 1944. Balta Liman, a female in flood jetsam, 5th September 1943. Kars: macrolabious male, September 1941 (Kosswig). Bulu, early August 1941, under stones, about 1600 m., in zone of sub-alpine flora (Dr Post).

The relations of these three species are interesting. It seems that *F. lurida* and *F. auricularia* have defined areas, for in the immediate neighbourhood of the sprawling village of Rumelihisari they do not appear to overlap. The specimens from the north-western gardens, on the highest ground, are *F. lurida*, and those from the lower levels and south-eastern portion are *F. auricularia*, while the scarcer *F. decipiens* seems to overlap with the latter, but not with the former.

The specimens from the Embassy Garden were all found under bark on old posts, and never on Dahlias. They are a recognizable form, much darker and more lightly built than our British form, with the wing scales as dark as the elytra; the forceps are more slender and graceful, and the dilate portion is separated from the tooth by a small concavity, whereas with our British specimens the tooth seems to rise directly out of the corner of the dilated portion. These characteristics give this form a distinctive appearance, but I do not care to name it, as it is very likely only a local environmental form.

I was expecting to find the highly coloured form described by Lucas as *orientalis*, from Levantine specimens, but I have not come across it. A few from the Embassy garden, while having the anterior portion typically dark, had the abdomen much brighter than usual, thus approaching *orientalis*, Luc. This was the case also with the two macrolabious males from the Infirmary Garden. This is at an altitude of about 200 ft., above the Bosphorus. I do not know the altitude of the Embassy garden, but should say it is about half that. The Embassy garden is also much damper. I think it very probably that this intensity of colouring is dependent upon illumination and upon the degree of moisture, as I have noticed is undoubtedly the case with certain highly coloured grasshoppers in Africa.

The relationship of the *F. auricularia* group is also very interesting. It is a case of multiple species.

For while brachypterism in many species of earwig is a merely varietal feature, occurring from no apparent cause and seemingly not connected with distribution, in this group of earwigs it is accepted as a specific character. The only cases of genuine brachypterism in *F. auricularia* that I know of occur in Italy, where it is accepted as a distinct species, *F. silana*, Gén , apparently replacing the typical form where it occurs. The so-called brachypterism in *F. auricularia* from the Isle of Wight recorded by me about forty years ago may be, I now think, attributed to mutilation by other earwigs, a phenomenon recorded by Worthington.

Similarly, *F. decipiens* is the brachypterous form of *F. lurida*, yet it occurs throughout the Mediterranean, while the macropterous *F. lurida* is known only in the eastern portion.

These two closely related cases of correlation between brachypterism and geography are noteworthy, the only ones that I can recall in either the Dermaptera or Orthoptera.

Again, while *auricularia-silana* form a pair, *lurida-decipiens* form a corresponding pair. The difference between these two pairs is also what would be regarded as a rule as a trifling matter; that is, the presence or absence of a sharp tooth at the corner of the dilated part of the forceps of the males. Normally I should regard small variations of armature as of little or no significance. In such plastic forms as *L. riparia*, for instance, little attention would be paid to them. Yet in this-group they are persistent. The central European *auricularia* and its Italian form *silana* invariably has this tooth, while the Mediterranean *lurida-decipiens* never have it.

The four forms are always accepted as good species, yet characters far more striking are not considered specific in *L. riparia*, which is not only excessively plastic but almost cosmopolitan.

Bey-Bienko has recently shown that in the Far East there is a series of what Semenov-Tian-Shansky calls vicarious species, which correspond to the various western forms. How interesting it would be to work out this problem in detail.

F. smyrnensis, Serv.—This handsome earwig is far from common, though generally distributed in the neighbourhood of the Bosphorus.

In the Robert College Museum there is a male from the Forest of Belgrade, and in the collection of the University Museum there are five very fine macrolabious males from the same locality. There is one from Istenya, about three miles up the coast beyond Rumelihisari. Additional localities in the neighbourhood of Istanbul are Florya (4.vii.26), on the Marmora coast, and from Pendik (11.v.29) on the shores of the Gulf of Ismid.

Yet in all my walks abroad I have kept a sharp eye open for this handsome earwig, for I have never come across it alive. I have offered gardeners cash prizes for earwigs, and many of my friends in and around Rumelihisari have saved for me any earwigs they have found in their gardens, but no one has produced a *smyrnensis*.

Nor can it be very common in its type locality. One friend of mine hunted for it in a big garden in Smyrna every day for a week, and promised the gardener a reward if he found one, but in vain. Miss O'Neill, of Robert College, was able to procure only a single specimen after diligent hunting on two visits to Smyrna of several weeks each.

This handsome and very distinctive species must occur throughout Anatolia as far as the Caspian, for Semenov-Tian-Shansky has recognized that his *pomerantsevi* from the Transcaucasus is a synonym. But in two visits to the place where it was taken I failed to find one. The original specimen came to light, but not an earwig is reported to the arc lamp which my host Shelkovnikov kept burning at night on the edge of the steppe, for collecting purposes.

It is the only European member of the group of *Forficula* with pale spotted elytra, comprising the North African *F. lucasi*, Dohrn, and *F. barroisi*, Bol., and a smaller species in South Africa and South India and Ceylon respectively.